U.S. AGENCY FOR
INTERNATIONAL
DEVELOPMENT

March 31, 1998

MEMORANDUM FOR AA/M, Terrence J. Brown

FROM: AIG/A, Everette B. Orr

SUBJECT: Audit of the New Management System (NMS) Status
(Audit Report No. A-000-98-004-P)

This audit reports on actions USAID officials have taken to implement the five recommendations contained in our March 1997 report on the Worldwide Deployment of the New Management System (NMS).[1] A USAID sponsored analysis of NMS technical and implementation problems and alternatives to implement an effective system was completed on February 2, 1998. The report[2] confirmed many of the problems we previously reported, identified the risks the organization faces in implementing an effective system, and recommended an implementation strategy.

This audit found that USAID has made progress implementing the recommendations, but that continued attention is needed to ensure success. Specifically, the Chief Information Officer (CIO) has begun implementing processes to manage information technology as an investment, but faces important organizational challenges because USAID has limited capability to implement major systems. Similarly, although the CIO has appointed an NMS Program Manager, the NMS project still lacks clear lines of authority and responsibility. The CIO has also done a thorough job identifying NMS technical and implementation problems and has begun taking steps to implement disciplined processes for future NMS development efforts. Finally, a recently completed analysis of NMS deficiencies provides valuable information about alternative implementation strategies, but we believe additional analyses are needed before finalizing the choice of alternatives.

This report contains one recommendation (See page 13).

Thank you for the cooperation and assistance extended to our auditors during this assignment.

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[1] Audit of the Worldwide Deployment of the New Management System (Report No. A-000-97-004-P, March 31, 1997).

[2] The report (Analysis of Alternatives with Regard to the USAID New Management System, February 2, 1998) was issued under the contract with GSA's Federal Systems Integration and Management Center (FEDSIM).

Background

NMS was designed to replace aging and ineffective computer systems USAID has used to perform accounting, budgeting, procurement, and operational functions. The need to replace outdated systems was identified from a series of Office of Inspector General (OIG) and General Accounting Office (GAO) reports. In addition, USAID internal assessments found that information systems did not provide reliable information to account for resources or manage operations. NMS was designed to (1) streamline business processes, (2) eliminate paper forms, (3) correct material noncompliance with federal accounting and financial management requirements, and (4) provide managers with the information needed to make appropriate decisions and reliably report the status of activities.

Although NMS originally consisted of eight subsystems, only four have been developed and deployed. These are the AID Worldwide Accounting and Control System (AWACS), Acquisition and Assistance, Budget, and Operations subsystems. Plans still call for implementation of the Property Management and Human Resources subsystems, but no longer include the Communications or Guidance subsystems.

NMS first began processing a limited number of accounting transactions in July 1996. These transactions were limited to Washington offices and primarily to operating expense funds used for travel, small purchases, and some procurement. On September 27, 1996, we reported that plans to deploy NMS worldwide on October 1, 1996 involved significant risk to its operations. [3] We reported that the system had not been adequately tested, was not operating effectively, and did not meet federal financial management system requirements mandated by the Office of Management and Budget (OMB). On October 1, 1996, however, USAID deployed the NMS worldwide as the primary system for conducting its business, recording accounting transactions, and preparing financial and management information.

In March 1997, we reported that worldwide deployment of NMS had disrupted operations, increased the risk of fraud, waste, and abuse; and reduced morale. These problems existed because NMS was deployed before severe technical and implementation problems were corrected. USAID's high-risk approach deviated from guidance calling for agencies to thoroughly test system performance and adequately plan for implementation before deployment. To a large extent, the failure to follow accepted system development practices was due to underlying organizational and management deficiencies that allowed substandard practices to continue.

[3] Interim Report on the Status of USAID's New Management System (Report No. A-000-96-001-S, September 27, 1996).

In our March 1997 report, we recommended that USAID:

(1) Appoint a senior official to be the CIO, reporting directly to the Administrator and limit the CIO's responsibilities primarily to managing information resource activities, including instituting disciplined Information Resources Management's (IRM) processes and ensuring they are applied to NMS.

(2) Appoint a program manager to oversee NMS and direct the program manager to develop plans to (1) identify NMS technical and implementation problems, (2) strengthen IRM management practices, and (3) identify implementation alternatives.

(3) Assign a senior manager to develop and manage a performance-based acquisition plan that requires the contractor to deliver a fully functioning system-or a subset of the system-that meets financial management and USAID requirements.

(4) Suspend NMS contractor development activities until the implementation and acquisition plans are approved.

(5) Suspend AWACS operations until technical deficiencies are corrected, implementation issues are resolved, and testing shows the system-or a cost-effective subset of the system-operates effectively and complies with federal financial management system requirements.

This is the second report describing the status of USAID's actions to implement these recommendations. The first report[4] found that USAID had agreed to implement three of the five recommendations. Although USAID had committed to implement disciplined IRM practices and correct NMS deficiencies, it had made only limited progress at that time.

Audit Objective

The objective of this audit was to answer the question:

> What progress has USAID made to implement our March 1997 report recommendations on the New Management System?

A full description of our scope and methodology is contained in Appendix I.

[4] Audit of the Status of USAID's New Management System (NMS), (Report No. A-000-97-010-P, September 30, 1997.)

Summary of Results

USAID's actions have been partially responsive to our March 1997 report on the worldwide deployment of the New Management System (NMS). USAID has agreed to fully implement four recommendations that addressed the need to (1) appoint a Chief Information Officer (CIO) to be responsible for implementing disciplined IRM processes; (2) assign an NMS program manager and prepare plans to identify technical deficiencies, apply disciplined processes to NMS, and identify implementation alternatives; (3) develop and manage a performance-based acquisition plan, and (4) suspend AWACS development. USAID agreed to partially implement the fifth recommendation by suspending operation of the AWACS subsystem at missions but continues to operate the subsystem in Washington.

This audit found that USAID has made progress implementing the recommendations, but that continued attention is needed to ensure success. Specifically, the CIO has begun implementing processes to manage information technology as an investment, but faces important organizational challenges because USAID has limited capability to implement major systems. Similarly, although the CIO has appointed an NMS Program Manager, the NMS project still lacks clear lines of authority and responsibility. USAID has also done a thorough job identifying NMS technical and implementation problems and has begun taking steps to implement disciplined processes for future NMS development efforts. Although USAID officials have not yet completed a performance based acquisition plan, they have initiated important action to do so. Finally, a recently completed analysis of NMS deficiencies provides valuable information about alternative implementation strategies, but we believe additional analyses are needed before finalizing the choice of alternatives.

USAID also continues to rely on AWACS as its primary accounting and financial management system in Washington. Thus, USAID continues to operate a financial management system that is exposed to internal control and security risks.

Below, we discuss each of the five recommendations from our March 1997 report, USAID's actions related to each recommendation, and our analysis of the actions.

Prior Recommendation No. 1: Chief Information Officer/Disciplined IRM Processes

We recommended that USAID appoint a senior official with information resources management expertise to be the CIO, reporting directly to the Administrator and limit the CIO's responsibilities primarily to managing information resource activities, including instituting disciplined IRM processes and ensuring they are applied to NMS.

Chief Information Officer

To help ensure that agencies implement an effective process to manage information technology investments, the Clinger-Cohen Act of 1996 requires executive agencies, to appoint a CIO whose primary responsibility is to insure that agency information resources are managed effectively. The Administrator appointed the Deputy Assistant Administrator for Management as the Acting CIO. In March 1998, the Administrator asked OMB for concurrence on his CIO nominee. If approved, the nominated individual will retain his responsibilities as the Deputy Assistant Administrator for Management while adding responsibilities as the CIO. The proposed nominee will oversee USAID's budget, information resources management, and administrative service functions concurrently with his responsibilities as CIO.

The new CIO, however, faces important organizational challenges to institute disciplined processes at USAID. USAID contracted with the Federal Systems Integration and Management Center (FEDSIM)--a part of the General Services Administration--to analyze NMS technical and implementation problems and to identify risks and alternatives. The report,[5] which was issued in February 1998, found that (1) USAID managers have failed to provide consistent direction which adversely affects both morale and productivity; (2) the current NMS organization is fragmented and complex, discouraging accountability and inhibiting productivity; (3) USAID's culture of relying on informal communications and management by consensus inhibit timely, effective decision making; and (4) the lack of a well defined project management process inhibits consistent delivery of systems on time and within budget. The study made several recommendations to establish an effective leadership environment, simplify and streamline the NMS development organization, and implement a project management process. We believe the CIO needs to play a central role in implementing these recommendations.

Instituting Disciplined IRM Processes

USAID has begun taking action to implement disciplined IRM processes by forming a Capital Investment Review Board (CIRB) and awarding a contract to help implement an effective capital investment review and management process.

The Clinger-Cohen Act of 1996 requires agencies to implement a process to manage information technology as an investment. The process calls on agencies to use disciplined practices to select, monitor, and evaluate the results of information technology investments. In February 1998, USAID established the charter for its CIRB. The objectives of the Board are to maximize the value and manage the risks of information technology investments, to ensure best return on investment, and thereby, support achievement of USAID's mission. The CIRB is chaired by the CIO and has a total of 12 members.

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[5] Analysis of Alternatives with Regard to the USAID New Management System, February 2, 1998.

Prior to its formal establishment, the CIRB met and discussed various issues, including the Clinger-Cohen Act of 1996, Year 2000 issues, an independent assessment of NMS problems and alternatives, and instituting an investment review process. In a January 1998 meeting, the Board was informed that training would be provided to members at an IT-investment workshop in late February 1998.

USAID has also contracted with a consulting firm to analyze existing capital investment review and management processes and to recommend a process that meets the requirements of the Clinger-Cohen Act. The contractor has completed a description of the current process and identified "gaps" between the current investment review process and the requirements of the Clinger-Cohen Act and related legislation. In addition to identifying weaknesses and non-compliance with legislative requirements, the report provided recommendations for improvement in each of five key investment areas: strategic planning, systems, project planning and control, organization, and process. In May 1998, the contractor is scheduled to complete a revised information technology investment process designed to meet the legislative requirements and USAID's capital planning needs.

Prior Recommendation No. 2: Program Manager/Implementation Plan

Our second recommendation was that USAID assign a senior manager to manage the NMS program, reporting directly to the CIO, AA/M, or USAID Administrator. The recommendation called for the program manager to work with the CIO to prepare an implementation plan identifying the steps, time frames, and resources needed to:

(1) Analyze the technical and implementation problems that currently limit NMS from achieving its full potential;

(2) Implement disciplined IRM processes; and

(3) Identify alternative implementation strategies, including pilot testing, prototyping , and incremental deployment of NMS capabilities.

Program Manager

A program manager with responsibilities to achieve results and the authority to make and implement decisions is important to successfully deploy complex systems. In September 1997, USAID assigned a full-time program manager to supervise NMS development until the system is operational. The NMS program manager reports directly to the Acting CIO.

However, project management responsibilities and authority have not yet been clearly defined. In fact, the February 1998 analysis of NMS deficiencies and alternatives pointed out that the NMS project management structure is still not effective. The study found that (1) a number of strong, autonomous user organizations continue to act independently, (2)

USAID lacks a single NMS development organization with clearly defined roles, responsibilities, and authorities, and (3) distributed responsibilities have produced fragmented efforts and eroded accountability.

Plan to Identify Technical and Implementation Problems

USAID contracted for two studies, which have identified NMS technical and implementation problems. The first study, completed in November 1997, was limited to an examination of the NMS software to assess its quality. The second study, the February 1998 FEDSIM report, analyzed the full range of NMS technical and implementation problems, including identifying risks and alternative ways to implement an effective system. These studies confirmed that NMS suffers from severe technical and implementation problems that continue to prevent the system from operating effectively.

In the first study, the contractor assessed the quality of NMS software in order to identify deficiencies associated with implementation of NMS. In November 1997, the contractor reported that NMS software needed changes to improve overall software quality, reduce maintenance costs, and potentially improve performance. The report also pointed out that NMS configuration management and change control activities needed significant improvement.

The FEDSIM report confirmed that severe technical and implementation problems plague the system. The contractor examined the system from several technical perspectives, including the: system architecture, communication network, security, database, application software, and Year 2000 readiness. Technical deficiencies identified included:

-- The application architecture, which describes the division of computer processing responsibilities among system components, is not appropriate for a system of the size and complexity of NMS.

-- The database design is inadequate, which results in a lack of integration between the four NMS subsystems.

-- Both database and application software code is of poor quality and contains many defects.

-- Security capabilities were not effectively included in the NMS. As a result, financial management risks are increased.

-- The system was not designed to process transactions in the year 2000 and contains many year 2000 date related deficiencies.

These technical problems, along with organizational and business process problems contribute to NMS implementation deficiencies that were also identified by the report. Overall, the analysis concluded that none of the four NMS subsystems performed the functions necessary to support essential business processes or to meet regulatory requirements. Functions that are not operating effectively include:

-- The accounting subsystem does not support Prompt Payment Act and Debt Collection Act requirements.

-- The accounting subsystem does not produce reliable financial or management reports.

-- The accounting subsystem does not include a cost accounting component, which allows managers to understand the cost of operations, programs, and projects,

-- Amounts in the accounting subsystem's general ledger do not agree with detailed transaction data in other parts of the accounting subsystem.

-- The accounting subsystem does not generate monthly or yearly automatic accruals.

-- The accounting subsystem does not destinguish between capital assets or expenses.

-- The accounting subsystem does not match transactions with supporting payment documents before making disbursements.

-- The accounting subsystem does not meet requirements to process bi-lateral agreements, foreign currency, reimbursable agreements, loans, or accounts receivable.

The A&A procurement subsystem does not meet Federal Acquisition Streamlining Act requirements to maintain and consider contractor past performance in awarding new contracts.

-- The A&A procurement subsystem does not meet Federal Acquisition Streamlining Act requirements to track expenditures compared to progress achieving results.

-- The A&A procurement subsystem does not generate reports users need to perform their jobs effectively.

-- The Budget subsystem does not track operating expenses by object class and resources category.

-- The Budget subsystem does not identify and track congressional earmarks and directives.

-- The Budget subsystem does not always produce accurate responses to queries.

-- Few features of the Operations subsystem are being used, even though most features appear to work.

Plan to Implement Disciplined IRM Processes

USAID has continued efforts to introduce disciplined IRM processes into the NMS project. Senior officials have concluded that the organization does not have the capability to develop major software systems, and should not develop that capability. Instead, USAID officials plan to improve their ability to manage the acquisition of software systems through contractors. As a result, USAID officials have committed to achieve level II of the Software Engineering Institutes' Software Acquisition Capability Maturity Model. We agree that this is an appropriate approach and goal. To accomplish this long-term improvement, USAID officials have contracted with the Software Engineering Institute at Carnegie Mellon University. The Institute, sponsored by the Department of Defense created the capability model concept to help organizations improve their ability to successfully implement complex software systems.

In March 1998, the Office of Information Resources Management (M/IRM) issued a task order under an interagency agreement for additional work with the Software Engineering Institute. This task order is intended to help improve information technology planning, technical direction, oversight, policy formulation, system acquisition, and day-to-day operational management of software-intensive aspects of the overall IRM function. To do so, M/IRM expects the Institute to assist it to develop reliable processes to acquire commercial products and to manage software acquisition risks. Technical tasks include Project Management, Commercial Off The Shelf (COTS) Software Support, Software Acquisition Process Improvement, Acquisition Risk Management, and Electronic Process Guide Development.

M/IRM is also continuing interim steps to apply more discipline to ongoing NMS maintenance and improvement efforts. These efforts include preparing (1) a draft strategy to introduce configuration management and change control in the NMS project, (2) draft NMS software peer review procedures, and (3) a final, but not yet approved, NMS Change Control Board Charter .

Configuration Management and Change Control--M/IRM is attempting to implement configuration management and change control in the NMS program. M/IRM has identified configuration management and change control as significant elements in the development and maintenance of NMS applications. It has purchased and is implementing a commercially available automated product to manage (1) software configuration management activities and (2) change control processes. M/IRM has also drafted an implementation plan describing how the product will be used in the NMS project.

Draft Software Peer Review Procedures--One simple, yet effective way to improve software quality is to conduct peer reviews. The purpose of a software peer review is to have one software developer/programmer review the work of another. This is one

mechanism that is used to improve the quality of software development and ensure better product delivery to the customer. The peer review, although basic in concept, is an essential part of the software development process according to the Software Engineering Institute's Capability Maturity Model. In February 1998, M/IRM issued its final draft of software peer review procedures. The draft procedures require peer reviews of NMS source code and describe acceptance criteria to be used during the peer review.

Change Control Board-- USAID moved away from weekly releases of NMS and began implementing change control processes for changes to NMS. As a result, in February 1998, M/IRM drafted a charter to formally establish a Change Control Board for the NMS production system. The Board is intended to ensure that efforts to correct software defects are adequately controlled and documented. The Board will be responsible for reviewing, evaluating, authorizing, and monitoring proposed changes to the operational NMS. The Board will authorize the creation of a new production baseline (source codes, executables, and documentation) by establishing a periodic software release plan and assigning software changes to an appropriate software release schedule.

Plan to Develop an Implementation Strategy

USAID officials have made progress developing an implementation strategy, but have not yet completed such a strategy. The FEDSIM report recommended that USAID replace the AWACS subsystem and repair the other three NMS subsystems. The report also pointed out that all alternatives involve significant risks, in part because USAID has limited institutional capability to implement large systems.

The report identified and analyzed seven alternative approaches to implement a system that would meet USAID's financial management requirements. The alternatives considered were to (1) fully repair NMS, (2) partially repair NMS, (3) revert to legacy systems, (4) replace NMS with commercially available products, (5) replace the AWACS subsystem with a commercial product and repair the other NMS subsystems (A&A, Budget, and Operations), (6) use another agency to cross-service the AWACS functions and repair the other NMS subsystems, and (7) outsource all NMS functions to the private sector. The initial analysis concluded that alternative 4, replacing NMS with commercially available products, would provide the lowest cost and lowest risk alternative to meet USAID's needs. Based on further input from USAID management, the FEDSIM contractor adjusted the analysis to give more weight to incorporating existing features from some NMS subsystems. As a result, the FEDSIM contractor concluded that USAID should implement alternative 5, replacing the AWACS subsystem with a commercial product and repairing the A&A, Budget, and Operations subsystems.

Although we believe the analysis used an appropriate methodology and the report provides a sound framework for considering alternative implementation strategies at a high level, we do not believe it provides sufficient analysis needed to make the decision to repair the three NMS subsystems. In addition, the analysis did not fully consider opportunities to cross service or outsource some financial functions performed by the AWACS subsystem. This is because the alternatives were structured in a way that did not allow a full analysis of the lowest cost and risk approach for individual business functions or subsystems. A more detailed analysis, that considers the lowest cost and lowest risk approach for each major NMS function and subsystem would compare the costs, risks, and benefits of repairing NMS subsystems to commercially available products, cross servicing opportunities, and outsourcing. We believe such an analysis could very well identify lower cost and lower risk alternatives that would increase the likelihood of success.

The recommendation to repair the A&A subsystem illustrates the need for a more detailed analysis. No direct comparison was made of whether USAID's procurement requirements should be met by (1) repairing the A&A subsystem, (2) acquiring a commercially available procurement package, or (3) having another agency cross service some or all procurement functions. Data contained in the analysis, however, indicates that such a comparison should be made before USAID decides to repair the A&A subsystem.

First, the analysis concluded that the A&A module does not provide some basic functions that are needed to meet legislative requirements and USAID business needs. For example, the A&A subsystem does not maintain information on vendor past performance, track deliverables--a function that is needed to measure earned value--or provide information users need. In addition, an analysis of software defects found that over 46,000 lines of A&A software code (one-quarter of the total) contained errors that need to be fixed for the subsystem to operate effectively. The analysis also estimated that it would cost $1.1 million to make A&A able to process data in the year 2000. In this regard, the report concluded that USAID would first need to correct the software code deficiencies, then correct date processing problems, and that USAID was unlikely to find the resource skills or additional funding to correct NMS year 2000 deficiencies in time to be ready for year 2000 failures. Further, the report found that because the NMS database was designed without any formal process, has not been adequately documented, is not well integrated, contains poorly written code, and does not enforce business rules efficiently, the NMS, including the A&A subsystem, will be difficult and expensive to maintain and modifications will present a major development risk. Finally, along with other NMS components, the A&A subsystem suffers from security deficiencies that need to be corrected because they increase the vulnerability to loss and abuse. Compounding the risks of correcting all of these deficiencies, the report found that USAID has very limited institutional capability to implement the corrections successfully.

In contrast, the report identified 11 commercially available procurement packages. All 11 packages support small purchases (which is one component of the A&A subsystem), and three packages also support development of contracts and contract management activities that are important to USAID and are also part of the A&A subsystem. According to the report, the three comprehensive packages are available from a GSA sponsored schedule, are year 2000 compliant, and offer full electronic commerce and electronic data interchange capabilities. At least one package provides a standard interface to allow easy linkages with other commercially available financial management packages. Further, the report estimated that the commercially available procurement package would cost about $2.6 million, or about $1.5 million less than the $4.1 million required to repair the A&A subsystem. The commercial package would also entail lower risks than repairing the A&A subsystem. The report also identified three Federal agencies that provide cross servicing of procurement actions and one agency that cross services grants--a major type of procurement transaction at USAID.

However, because of the way the alternatives were constructed, no direct comparison was made of whether a commercial procurement package or cross servicing represents a lower cost and lower risk approach than repairing the A&A module. This is because the alternatives were fixed at the beginning of the analysis and were considered in total, not function by function or subsystem by subsystem. For example, alternative 5, replace AWACS and repair the other NMS subsystems, and alternative 6, cross service AWACS and repair the other subsystems, did not consider separately acquiring a commercial package or cross servicing procurements, small purchases, or grants. As a result, the specific costs, benefits, and risks of (1) using a commercial package, (2) cross servicing, and (3) repairing the A&A subsystem were not directly compared.

Similarly the alternatives analysis did not show whether a commercial budget package or cross servicing the budget function would entail lower costs and risks than repairing the NMS Budget subsystem. The report identified eight commercially available budget packages, seven of which are available from the GSA sponsored schedule. In addition, the report identified three agencies that provide budget cross servicing. Because of the way the alternatives were constructed, however, no direct comparison was made to identify the lowest cost and risk alternative to provide this capability.

On the other hand, it appears that USAID may not be able to acquire a commercial package or arrange for cross servicing to meet the capabilities performed by the Operations module. The report did not identify any commercial package or cross servicing agency that provides the capability to track activities and measure results, as implemented in the Operations subsystem.

Recommendation No. 1:

We recommend that the Chief Information Officer complete a detailed analysis of the costs, benefits, and risks to (1) implement commercial procurement and budget packages and/or (2) use cross servicing for procurement and budget functions before deciding to repair the NMS Acquisition and Assistance, and Budget subsystems.

Prior Recommendation No. 3: Performance-Based Acquisition Plan

Our third recommendation was to assign a senior manager to develop and manage a performance-based acquisition plan that requires the contractor to deliver a fully functioning system-or a subset of the system-that meets financial management and USAID requirements.

The FEDSIM report described in detail many of the problems USAID faces in procuring technology. These weaknesses include the lack of a consistent subcontract management process, lack of defined deliverables and acceptance criteria, and lack of a contractor oversight process. In addition, the FEDSIM report identified organizational, skill, and project management weaknesses in USAID's management of the NMS contracts.

USAID has made a commitment to implement performance based contracting practices to correct NMS deficiencies. The Director of M/IRM is working on a strategy to move USAID to performance based contracts and at the same time build the capability to better manage contractor performance. Although USAID staff have been developing an acquisition plan, USAID has not yet implemented performance based contracts for the NMS.

Prior Recommendation No. 4: Suspend Contractor Development Activities

Our fourth recommendation was that USAID suspend NMS contractor development activities until the implementation and acquisition plans were approved. Initially, USAID decided to continue developing NMS capabilities. However, in response to our September 1997 NMS status report, US AID agreed to suspend NMS development activities. On October 22, 1997, USAID directed its NMS contractors to suspend work on development of new NMS functions and to focus resources on maintaining the operational version and correcting deficiencies which prevent the system from operating effectively.

USAID extended the contract for the largest NMS contractor, ManTech, but decreased the number of staff from 80 in January to 30 in April. Plans are to end this contract in June. The estimated monthly cost decreased from about $728,000 in January 1998 to about $331,000 for the months of April through June. Other contractual efforts for NMS include extending the ICES, Ltd. and ICF Information Technology Inc. contracts by six months to August 31, 1998.

The FEDSIM report confirmed that USAID lacks the skills necessary to manage the software development process and recommended that USAID move to manage a single prime contractor, rather than multiple contractors. Although USAID continues to try to correct fundamental deficiencies in the operational NMS, the pervasive nature of the problems will limit the effectiveness of these efforts. When performance based contracting is implemented USAID will have better control over the development activities of its contractors.

Prior Recommendation No. 5: Suspend AWACS Operations

We recommended that USAID suspend AWACS operations until technical deficiencies were corrected, implementation issues were resolved, and testing showed the system-or a cost-effective subset of the system-operated effectively and complied with federal financial management system requirements.

USAID decided to suspend AWACS, and Acquisition and Assistance operations at field missions, but to continue operating AWACS in Washington. USAID stated that it weighed this recommendation very carefully and that the NMS management team asked the Management Bureau's Office of Financial Management to assess the workload, audit, and financial reconciliation implications of accepting this recommendation. USAID recognized that continuing to operate AWACS exposed it to financial vulnerabilities. However, USAID determined that it would be exposed to additional financial management vulnerabilities if it attempted to revert to the FACS legacy system.

Continued use of AWACS in Washington leaves USAID vulnerable to losses from fraud or abuse and hinders USAID's ability to provide adequate assurance that it can properly account for resources. In September 1997, we reported that NMS does not contain a system of internal controls that meets GAO's Standards for Internal Controls in the Federal Government. [6] We identified a number of serious internal control problems and pointed out that the NMS contains many more unknown vulnerabilities. In September 1997 we also reported that USAID has not implemented a computer security program that complied with requirements of the Computer Security Act of 1987 or the OMB Circular A-130.' That report found that USAID had not adequately considered security in NMS development and cited several NMS security vulnerabilities that increase the risks of fraud and the compromise of sensitive or Privacy Act-protected information.

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[6] Audit of the Internal Controls for the Operational New Management System (Report No. A-000-97-009-P, September 30, 1997).

[7] Audit of USAID's Compliance with Federal Computer Security Requirements (Report No. A-000-97-008-P, September 30, 1997).

Part of USAID's continuing NMS development activities is devoted to identifying and correcting these financial management vulnerabilities. In addition, USAID is putting together a security plan to address security weaknesses in all of USAID's systems, including the NMS.

Management Comments and Our Evaluation

USAID provided written comments on a draft of this report and we have included their comments as Appendix II to this report. USAID concurred with the recommendation in the report and provided some additional information on actions USAID is taking to implement best practices in NMS software acquisition and program management. The actions identified in the comments describe both the tactical and strategic approach USAID is planning to use to better manage its information resources.

SCOPE AND METHODOLOGY

Scope

Our review covered USAID decisions in response to recommendations contained in our March 1997 report, "Audit of the Worldwide Deployment of the New Management System", and subsequent management actions to implement the recommendations. USAID's management decisions on those recommendations were communicated in a July 14, 1997 memorandum to the Inspector General.

The audit was conducted in March 1998 in accordance with generally accepted government auditing standards. We relied heavily on assertions by responsible USAID managers to describe subsequent activities to implement the decisions.

Methodology

We reviewed and analyzed USAID management responses to the five audit recommendations made in our March 1997 report; "Audit of the Deployment of the New Management System", (report number A-000-97-004-P, March 3 1, 1997). We also identified actions USAID has initiated to implement the recommendations and reviewed available documentation describing the nature and implementation status of those actions. We held numerous discussions with responsible USAID officials from the Management Bureau, including the Director and staff from the Office of Information Resources Management, the NMS program manager and team leaders from various NMS development units, and NMS contractor officials. We reviewed USAID decision papers and internal analyses describing the status of NMS development efforts, and we reviewed some draft material describing planned contract activities to implement disciplined IRM processes and performance based contracting practices.

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

MEMORANDUM

TO: AIG/A, Everette B. Orr

FROM: AA/M, Terrence J. Brown

SUBJECT: USAID Response to Draft Audit of the New Management System Status

The subject status report recognizes a number of steps USAID has taken in implementing the **March 1997** audit recommendations on the New Management System. This progress is the result of focused management attention at multiple levels to the challenges of better understanding the deficiencies and vulnerabilities in NMS as well as addressing the organizational and process issues identified both by the OIG and the FEDSIM independent assessment. The productive dialogue that has existed **between** OIG **staff and** USAID Management Bureau staff during and **following** the independent assessment has helped shape this focus.

Naturally, in a status report it is difficult to capture all the accomplishments to date and the considerable work in progress. Some **of** the work described herein is in process. The following provides some additional background information that sets the stage for a continued dialogue with the OIG on implementing best **practices** in NMS software acquisition **and program** management.

NMS Program Management: Since September 1997, USAID has transitioned to an NMS operations support environment. NMS **program management** then shifted its attention to conducting an independent assessment. FEDSIM was specifically **tasked** in conducting the independent assessment to examine the NMS program management structure, roles and responsibilities to better understand the deficiencies that existed over the project's life cycle. During the past two months many of their findings and recommendations have been the subject of considerable management analysis and discussion. NMS program management improvements will be implemented tailored to the requirements of a software

acquisition organization instead of a software development organization.

I have designated Richard Nygard, Deputy Assistant Adminietrator for Management and the Agency'6 Acting Chief Information Officer, to provide the essential leadership and oversight of the NMS program. He is applying industry best practices by establishing integrated product teams that will work with a prime contractor under a performance-based contract to oversee the work required to fix the NMS and implement an effective financial management system. The over-arching integrated product team is a newly chartered NMS Executive Team chaired up by Mr. Nygard with the Acting CFO and other NMS executive sponsors providing strategic guidance, resolving issues, monitoring risks, and assuring coordination for delivery of quality products within cost and on schedule through direct oversight of various NMS program teams. As recommended in the independent assessment, Linda Martin (Acting) and John Streufert, Director of M/IRM, have been designated a6 heads of the owner and delivery organization respectively to work with the NMS Program Manager. Together, they will *work closely* with the CIO to plan for program success by strengthening software acquisition planning, requirement6 management, project management, contract monitoring, and evaluation and quality assurance as part of a disciplined software acquisition process.

USAID recognizes that it does not have the capacity to do software development. Instead, our goal is continuous improvement toward the objective of becoming a first class software acquisition operation. USAID will select a prime contractor with substantial software development experience and mature software processes to apply industry best practice6 to develop software applications and implement commercial off-the-shelf software packages. Formally chartered integrated product teams will be established with clear performance goals in a partnering arrangement with the prime contractor. This management approach will address the deficiencies of the past management practices which included use of level of effort contracts and uncertain responsibilities among government managers. It will aiso assure improved communications among delivery, owner and prime contractor staff. A clear issues resolution path will exist from the working-level integrated product teams to the NMS Executive Team. Current attention focuses on the selection of a prime contractor and later discussions with their program management team regarding how the NMS program management plan will take NMS program management to the next stage in its development.

Performance-based Acquisition Plans: M/IRM Director has been assigned overall responsibility by the CIO for the development of an acquisition strategy, plan and solicitation to acquire the services of a prime contractor to support a number of IT investment and support requirements for which NMS is only one

element. Not only has the designation of the senior manager been made, but significant activity has been undertaken to correct material weaknesses of the Agency in management of information technology. Actions related to this task have been implemented in the context of a new organization strategy for NMS, Year 2000 compliance (Y2K) and establishing disciplined IRM procedures including the following:

a. Formulation of a delivery organization ha8 been undertaken, built around a structure of tactical plans for NMS and Y2K implementation.

b. A new head of Planning, Analysis and Management Division, Pat Kristobek, has been appointed.

c. A chain of command has been established to accomplish the task of developing an acquisition plan and performance based contract. Rick Nygard, Acting CIO, tasks the head of the delivery organization, John Streufert, and holds him responsible for best practice execution. Pat Kristobek, who reports to the Director of M/IRM provide8 coordination and staff work within the delivery organization to formulate the plan and performance based acquisition products consistent with that plan.

d. A sub-team within the delivery organization tactical manager8 has been named responsible for developing a prime contractor statement of work consistent with findings of the FEDSIM independent assessment.

e. The basic acquisition strategy and plan are being developed concurrently with the development of the solicitation document for the prime contract. The structure of the solicitation will operate as a basic ordering agreement to cover a broad range of IT services and support against pre-competed contract vehicle8 at FEDSIM. Technical support has been obtained under contract with FEDSIM to assist in preparation of the following deliverables for best practice award of a performance based prime contract:
   - Requirements analysis;
   - Market Survey and Cost Estimate;
   - Technical assistance in completion of a Performance Work Statement in the format required for the task order contract; and
   - Technical assistance to refine evaluation criteria and the Source Selection Plan.

f. Delivery organization tactical plan manager8 will develop performance based task orders under the prime contract by June 1, 1998, for NMS operations and maintenance, Year 2000 project management, and Year 2000 compliant infrastructure. Additional performance based task orde8 to plan for replacment of AWACS and conduct further analysis on the

lowest risk and cost approach to delivering necessary functionality in Operations, Budget and A&A as well as other USAID automation support activities identified for inclusion under the supervision of the prime contract will be initiated after June 1, 1998.

g A performance-based task ordering process is being developed. This process will include standards for performance-based task orders which, when followed, ensure that the orders specify the deliverables required by the government, and that any failure of the contractor to deliver can be objectively verified and dealt with. The NMS Program Manager will use the task ordering process to ensure that orders issued under contract vehicles to support NMS are performance-based.

h USAID has hired the Software Engineering Institute to establish a best practice strategy for utilizing commercial off-the-shelf software package to replace components of NMS.

i The Software Engineering Institute has been specifically tasked to assist USAID work toward certification at Software Acquisition Capability Maturity Model Level 2 through the development of a training curriculum for Agency project staff.

j The NMS Program Manager and M/FM ataff have developed a statement of work for a multi-faceted effort to develop an Agency vision for financial management, M/FM mission and goals to implement this vision, business process improvement, requirements analysis and alternatives analysis (e.g. COTS, cross-servicing and out-sourcing) for addressing the Agency's financial management operations and requirements. This work will be done by Coopers & Lybrand and is expected to be completed by October 1998. It will form the basis of a performance-based task order issued to the prime contractor to implement the alternative selected for each major financial management process.

Plan to Develop an Implementation Strategy: USAID concurs with the single new recommendation arising from this Audit Status Report that the CIO should complete a detailed analysis of the costs, benefits, and risks for various alternatives (e.g. commercial off-the-shelf packages, cross-servicing or repairing A&A or budget components of NMS) to providing the necessary procurement and budget functionality. This is consistent with the performance-based acquisition strategy being adopted that emphasizes requirements analysis, risk assessment, alternative analysis, and cost and schedule estimation as essential precursors to management decisions on future NMS investments. Many of the observations and issues mentioned in the Audit Status Report regarding A&A and Budget will be examined as part of this investment analysis.